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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,099	03/15/2004	Dan Graboi	102282-17	9263

21125 7590 02/13/2008

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EXAMINER	
FERNANDEZ RIVAS, OMAR F	
ART UNIT	**PAPER NUMBER**
2129	

NOTIFICATION DATE	DELIVERY MODE
02/13/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/801,099	GRABOI ET AL.	
	Examiner	Art Unit	
	Omar F. Fernández Rivas	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 22-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 22-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to an AMENDMENT filed by the Applicant entered on January 9, 2008.

2. The Office Action of June 18, 2007 is incorporated into this Final Office Action by reference.

3.

Status of Claims

4. Claims 1, 4, 6, 7 and 10-12 have been amended. Claims 13-21 and 25-28 have been cancelled. Claims 1-12 and 22-24 are pending on this application.

Claim Objections

5. Claim 1 is objected to because of the following informalities: the claim recites "lower level nodes" and "lowest level nodes" The hierarchical arrangement described in these limitations would be clearer if "lower level nodes" was replaced with "intermediate level nodes". This would clarify these nodes are between the top and lower level nodes. Appropriate correction is required.

Information Disclosure Statement

6. The information disclosure statement has not been filed for this application. To comply with 37 CFR 1.98(a)(1), the following is required: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately

from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement.

Claim Rejections - 35 USC § 112

7. In light of the amendments made to claims 4, 10, 11, 12 and 15, the rejection under 35 USC 112 first paragraph made in the previous office action has been withdrawn.

8. In light of the amendments made on claims 1, 6, 7, 10, 12-15, 17, 19 and 25, the rejection under 35 USC 112 second paragraph made in the previous office action has been withdrawn.

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Line 28 of claim 1 recites: "applying a **decision function** to a Top Down input" The Examiner has searched the specification for a definition for this decision function and has found none. No equation or condition has been found in the specification that implicitly defines this decision function and how it is applied to the Top Down input.

Claims 2-12 further limit claim 1 but fail to cure the deficiency set forth above and are rejected on the same basis.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Lines 12-13 of claim 1 recite "top level nodes are composed of combinations of features from, and are associated with, corresponding lower level nodes" It is not understood how a node from one level can be "composed" of data from a lower level. In a hierarchical arrangement, nodes from two different levels may be **related** to one another, a node from one level does not **contain** data from another level. A person of ordinary skill in the arts would not understand what the intent of the word "composed" is in the claim limitation and therefore the scope of this limitation cannot be established. Lines 14-15 suffer the same deficiencies as lines 12-13.

Line 23 of claim 1 recites: "receiving **feature detection information** from the FEM as a Bottom Up input" However, this feature detection information has not been

restricted to any particular information, other than being produced by the FEM. The claim does not define what this "feature detection information" encompasses (how it is obtained, what does this information contains or describes...). A person who tries to replicate the claimed invention would not know how to determine this feature detection information in the FEM in order to be received by the SAM to operate on this data.

Line 24 of claim 1 recites: "receiving information from **higher level nodes** in the HM as a Top Down input. In the claim, no level of the HM has been identified (no search has been started on the HM, no first node has been selected as a starting point for the search, no transition between the nodes has been made...). Therefore, a person of ordinary skill in the arts would not know how to determine these higher level nodes (are these only the top nodes of the HM, are the lower nodes considered higher nodes by the lowest nodes, is it based on a particular search step of the HM...).

Claims 2-12 further limit claim 1 but fail to cure the deficiencies set forth above and are rejected on the same basis.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The computer system must set forth a practical application of judicial exception to produce a real-world result. Benson, 409 U.S. at 71-

72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application.

For a claimed invention to be statutory the claimed invention must produce a useful, concrete, and tangible result. As the Supreme Court has made clear, " [a]n idea of itself is not patentable," *Rubber-Tip Pencil Co. v. Howard,* 20 U.S. (1 Wall.) 498, 507 (1874); taking several abstract ideas and manipulating them together adds nothing to the basic equation. In re Warmerdam, 31 USPQ2d 1754 (Fed. Cir. 1994).

For a claimed invention to be statutory under 35 U.S.C. 101, the claims must have the FINAL RESULT (not the steps) produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/ non-unpredictable), AND tangible (real world/ non-abstract) result.

The claim fails to produce a concrete result because the claimed subject matter fails to be limited to the production of an assured, repeatable result. More specifically, the claimed subject matter is not repeatable because line 23 of claim 1 recites: "receiving **feature detection information** from the FEM..." The claim has not restricted this **feature detection information** to any particular type of information. Therefore, since there is no metric to determine this feature detection information, the SAM may receive different information from the FEM for the same inputs provided to the device, which would produce different results for the same input data (not a repeatable result).

Line 24 recites: "receiving information from **higher level nodes** in the HM..." Since no description as to how this higher level node is determined, or how the system moves from one level to the other, the system may receive information from any node in

a level higher than that node (a lowest level node may receive information from a top level node or from a lower level node since these are on higher levels). Therefore, the claimed invention may yield different results when presented with the same inputs at different times.

Claims 2-12 further limit claim 1 but fail to cure the deficiencies set forth above and are rejected on the same basis.

Claim Rejections - 35 USC § 102

12. The rejection made on the previous Office Action of claims 1-15 under 35 USC 102 (b) has been withdrawn.

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Aref (US Patent #5,528,701, referred to as **Aref**).

Claim 22

Aref anticipates a recognition method for identifying a presented stimulus (**Aref**: abstract; EN: the sequence of input data is a stimulus), such method comprising the steps of: a) presenting an input stimulus for recognition (**Aref**: abstract; C2, L18-41); b)

identifying a set of candidate objects or events (**Aref**: abstract; C2, L18-41), the candidate objects or events possessing features (**Aref**: C4, L43 to C5, L40; C5, L53-64; C6, L17 to C7, L29; C8, L16-42; C11, claim 1; EN: the pen strokes will generate feature vectors. Moreover, minima, maxima and inflection points are features of the objects), wherein the candidate objects or events and features form an interconnected hierarchy wherein an object or event node at a higher level is linked to feature nodes at a lower level corresponding to the object or event node, and wherein a feature node at the lower level is linked to one or more corresponding object or event nodes (**Aref**: abstract; C1, L61 to C2, L5; C2, L18-41; C3, L28-47; C4, L61 to C5, L40; C5, L53-64, C6, L17 to C7, L29; C8, L16-42; EN: paragraph 19 applies. The tree is a hierarchy. The HMM's are considered lower level nodes containing features and are connected to an object node. Having a higher level tree hold the individual phrases (candidate objects) and a tree holding the individual word in the form of their component phonemes (features)) also reads on this claim limitation); c) assigning a measure to features at the lower level, setting a window of attention identifying feature domain information of interest, detecting a feature in the window of attention, wherein said setting a window of attention is performed responsive to said measure so that processing of the detected feature efficiently reduces the candidate set (**Aref**: C2, L18-41; C5, L53-64; C6, L17 to C7, L15; C7, L30-63; 11, claim 1 EN: the path followed is considered a window. The probability is a measure used to select the path); and d) re-defining the set of candidate objects or events consistent with the detection of said feature (**Aref**: C2, L18-41; C5, L53-64; C6, L17 to C7, L15; C7, L30-63; C11, claim 1; EN: selecting the objects having the element

(features) having the highest acceptance values).

Claim 23

Aref anticipates the steps c) and d) are repeated to iteratively reduce the candidate set to a single candidate, thereby identifying the presented object or event (**Aref**: abstract; C7, L30-63; C11, claims 1 and 2).

Claim 24

Aref anticipates the detection is carried out simultaneously of plural features in plural windows of attention to reduce the candidate set (**Aref**: C2, L18-41; C5, L53-64; C8, L16-60; EN: the combined HMM of the Viterbi algorithm).

Response to Applicant's arguments

15. The Applicant's arguments regarding the rejection of claims 22-25 have been fully considered but are not persuasive.

In reference to Applicant's arguments on page 17:

Claim 22 similarly recites "assigning a measure to features at the lower level, setting a window of attention identifying feature domain information of interest, detecting a feature in the window of attention, wherein said setting a window of attention is performed responsive to said measure so that processing of the detected feature efficiently reduces the candidate set." This process of assigning a measure to each feature is a Top Down processing as explained in ¶ 14, and it is used to filter which features are selected for further processing in a Bottom Up direction as further

explained in ¶ 15-18. This feature is different from the sequential processing of Aref.

Examiner's response:

The claims and only the claims form the metes and bounds of the invention. The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Limitations appearing in the specification but not recited in the claim are not read into the claim, In re Prater, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4).

The Applicant is arguing limitations not recited in the claims. There is no mention of the limitations Top Down processing or Bottom up direction in the claims and the specification is not the measure of the invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art; see In re Sprock, 55 CCPA 743, 386 F.2d 924, 155 USPQ 687 (1968).

The Examiner has cited portions of the Aref reference and an explanation of how the Examiner interprets the Aref reference to read on the limitations of claim 22 have been provided. The Applicant has failed to establish how the reasoning made by the Examiner on the claimed limitations are incorrect or how the cited portions of the prior art fail to teach the limitations recited in the claim.

Examination Considerations

16. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 105455, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

17. Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

18. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis
and such would be obvious to one of ordinary skill in the art, establishing thereby

an inherent prima facie statement.

19. Examiner's Opinion: paragraphs 16-18 apply. The claims and only the claims form the metes and bounds of the invention. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

21. Claims 1-12 and 22-24 are rejected.

Correspondence Information

22. Any inquires concerning this communication or earlier communications from the examiner should be directed to Omar F. Fernández Rivas, who may be reached

Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-2589 or email omar.fernandezrivas@uspto.gov.

If you need to send an Official facsimile transmission, please send it to (571) 273-8300.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, David Vincent, may be reached at (571) 272-3080.

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

Omar F. Fernández Rivas
Patent Examiner
Artificial Intelligence Art Unit 2129
United States Department of Commerce
Patent & Trademark Office

Friday, February 1, 2008.

JOSEPH P HIRL
PRIMARY EXAMINER
TECHNOLOGY CENTER 2100